

Learning Set 1



1.4 Design: Another Book-Support Challenge



Read p. 20 with your partner.

How will today's activity be different from what you've already done?

Update your Criteria and Constraints *(Read this paragraph with your table group.) Turn back to your lab sheet from 1.1 and update your criteria and constraints, based on what you just read.*

Plan, Build, and Test Your Design *Read the top of p. 21 with your group. Look at your solution briefing notes and your book support records sheet. Discuss ideas with your table group and build your book support. Record your new design on your book support records page (from 1.2).*

Communicate Your Solution *Read the rest of page 21. To prepare for your Solution Briefing, answer the following questions with your group:*

How is your design constructed?

What materials did you use, and how many of each?

Why did you build it the way you did?

What is the overall cost of the design?

How well does it work?

How does the design meet the criteria?

How did the challenge constraints affect the design?

What past experiences helped you make your design?

What problems remain?

Did you try anything different?

What else do you want to test?

****STOP FOR SOLUTION BRIEFING****

Reflect *After the Solution Briefing, read through the top of p. 22 and answer the following questions about the Book-Support Challenges.*

- 1. Write the criteria and constraints for the first Book-Support Challenge and then for the second challenge.*

- 2. Which criteria and constraints are different in the second challenge?*

- 3. How did you change your original design to meet the new challenge?*

- 4. What criteria and/or constraints were you unable to meet? Why?*

Name _____ Date _____ Hour _____

5. Describe the following ideas that you have learned during the Book-Support Challenge and why they were important in tackling this challenge. You may use drawings to help explain your answers.

a. Iteration

b. Collaborating

c. Copying versus building on the work of others

d. Record keeping

e. Using science knowledge

What's the Point? *(Read this section with your partner.)*

Record 3 new things you've learned from this learning set. (Sections 1.1, 1.2, 1.3, 1.4)



1.

2.

3.